

ACCESSION NR: AP4038780

fine structure lies outside the wavelength region of interest. Orig.art.has: 5 figures and 1 table.

ASSOCIATION: Fizicheskiy fakul'tet Leningradskogo gosudarstvennogo universiteta
(Physics Department, Leningrad State University)

SUBMITTED: OO

DATE ACQ: 12Jun64

ENCL: OO

SUB CODE: OP,EC

NR REF SOV: 010

OTHER:OOO

Card 3/3

L 9915-66 EWT(1)/EWP(a)/EWT(m)/EWP(j)/EWP(b) LHB/BA/WH
 ACC NR: AP5022867 SOURCE CODE: UR/0051/65/019/003/0425/0433
 AUTHOR: Lukirskiy, A. P. (Deceased); Savinov, Ye. P.; Yershov, O. A.; Zhukova, I. I.
Fomichev, V. A.
 ORG: None
 TITLE: Reflection of x rays with wavelengths from 23.6 to 190.3 Å. Some remarks on the operation of diffraction gratings
 SOURCE: Optika i spektroskopiya, v. 19, no. 3, 1965, 425-433
 TOPIC TAGS: x ray diffraction, x ray filter, x ray spectrum, diffraction grating
 ABSTRACT: The authors measured the angular dependence of the reflection coefficient for various substances, using the following monochromatic lines: O_K (23.6 Å), N_K (31.4 Å), C_K (44 Å), B_K (67 Å), $Sr_{M\beta}$ (108.65 Å), $Rb_{M\beta}$ (128.66 Å), $Ba_{IV-OIII}$ (164.6 Å), and $Cs_{IV-OIII}$ (190.3 Å). The measurement methods were described by the authors elsewhere (Opt. i spektr. v. 16, 310, 1963 and earlier). For lines shorter than 113 Å the radiation was detected with a flow-through proportional counter filled with methane; for longer wavelengths a Geiger counter with argon-alcohol mixture was used. The substances measured were F-1 glass, gold, titanium, and polystyrene. The method of preparing the reflectors was also described in the earlier papers. Polystyrene and titanium reflectors are found to be capable of effectively filtering radiation shorter than 50--200 Å, depending on the angle of incidence. In the case of F-1 glass, a sharp fine structure is observed in the reflection coefficient at wavelengths 70--130 Å. For titanium the fine structure appears at wavelengths shorter

Card 1/2 UDC: 537.531

L 9915-66

ACC NR: AP5022867

than 30 Å, and for polystyrene at wavelengths shorter than 45 Å. Gold exhibits no fine structure. The spectral dependences of the reflection coefficients show that titanium mirrors can be used effectively as filters for radiation of wavelengths shorter than ~~30-50~~ Å at various angles of incidence, and that polystyrene mirrors can be used as filters for radiation shorter than 50--180 Å, depending on the angle of incidence. The maximum reflection coefficients in the first order of diffraction have been calculated also for echelettes cut in F-1 glass and echelettes with gold and titanium coatings, which were also studied by the authors earlier (Opt. i spektr. v. 14, 285, 1963). Plots of the maximum reflection coefficient of the echelettes (600 and 1200 lines/mm) vs. the angle make it possible to choose the optimum angles of incidence and the angles of inclination of the echelette steps. The greatest possible reflection coefficients are obtained in first order. Orig. art. has: 3 formulas and 1 table.

SUB CODE: 20/ SUBM DATE: 21May64/ ORIG REF: 007/ OTH REF: 001
07/
18/

Card 2/2

L 41590-66 EWT(1)/EWI(m)/EWP(t)/ETI IJP(c) JD/JW JG

ACC NR: AF6018540

SOURCE CODE: UR/0181/66/008/006/1787/1790

AUTHOR: Lukirskiy, A. P. (deceased); Yershov, O. A.; Zimkina, T. M.; Savinov, Ye. P.

ORG: Leningrad State University im. A. A. Zhdanov (Leningradskiy gosudarstvennyy universitet)

TITLE: Spectral dependences of the absorption, reflection, and photoemission coefficients of LiF in the range from 60 to 120 ev

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1787-1790

TOPIC TAGS: lithium fluoride, absorption coefficient, absorption edge, quantum yield, bremsstrahlung, x ray diffraction study, spectral distribution

ABSTRACT: In order to study the fine structure of the absorption edge, the authors measured the coefficients of absorption, reflection, and the quantum yield of LiF in the range 60 - 120 ev, which has not been thoroughly investigated in the past. The measurements were made with an x-ray spectrometer with diffraction grating using the bremsstrahlung spectrum of a tungsten anode. The apparatus and procedures for its use and for elimination of higher-order diffraction spectra were described elsewhere (Opt. i spektr. v. 19, 433, 1965 and earlier papers). The tested samples were thin polycrystalline LiF films deposited by vacuum evaporation on nitrocellulose substrates. Sharp fluctuations of the absorption coefficient, which exactly duplicate fluctuations in the spectral dependence of the quantum yield, were observed in the region of the absorption K edge of the lithium ion over a section extending from ~60 to ~80 ev. The

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ACC NR: AP6018540

large values of the quantum yield (more than 50%) and its correlation with the absorption coefficient indicate that the fundamental role in the photoemission near the absorption edge is played by Auger electrons. The spectral dependence of the reflection coefficient also displays a fine structure near the K edge, and agrees qualitatively with the fine structure of the absorption spectrum. However, no exact correlation is observed between the absorption and reflection coefficients, in view of the complicated relation between them via the refractive index. The authors thank A. M. Rumsh for a discussion of the results and S. A. Gribovskiy and N. N. Ivanchik for help with the reduction and presentation of the results. Orig. art. has: 1 figure and 1 table.

SUB CODE: 20/ SUBM DATE: 03Nov65/ ORIG REF: 008/ OTH REF: 006

Card 2/2

SAVINOV, Ye.P.

Mechanized tillage of forest shelterbelts. Put' i put. khoz. no.
4:31-33 Ap '58. (MIRA 11:4)

1. Starshiy inzhener distantsii zashchitnykh lesonasazhdeniy,
stantsiya Kurgan.
(Windbreaks, shelterbelts, etc.) (Agricultural machinery)

SAVINOV, Ye.P.; GELESKUL, N.N.; SHUL'GA, P.I.

Design of tree belts. Put' i put.khoz. 7 no.7:43 '63.
(MIRA 16:10)

1. Zamestitel' nachal'nika Kurganskoy distantzii zashchitnykh lesonasazhdeniy Yuzhno-Ural'skoy dorogi (for Savinov).
2. Nachal'nik distantzii zashchitnykh lesonasazhdeniy, stantsiya Uzlovaya, Moskovskoy dorogi (for Geleskul).
3. Starshiy inzh. distantzii zashchitnykh lesonasazhdeniy, stantsiya Uzlovaya, Moskovskoy dorogi (for Shul'ga).

SAVINOV, Yu.

Let us bring to life the decisions of June Plenum of the Central
Committee of the CPSU. Mor.flot 19 no.9:1-4 S '59. (MIRA 12:11)

1. Zamestitel' ministra morskogo flota.
(Shipping)

SAVINOV, Yu.

We shall put into practice the resolutions of the November
plenum of the Central Committee of the CPSU. Mor. flot 23
no.1:1-4 Ja '63. (MIRA 16:4)

1. Pervyy zamestitel' ministra morskogo flota SSSR.
(Merchant marine)

SAVINOV, Yu.A.; ROMANOVA, V.P.

Geomorphologic regionalization of Vologda Province. Vest. LGU
no.24:114-123 '62. (MIRA 16:2)
(Vologda Province—Geomorphology)

SAVINOV, Yu.A.

Nature and economy of the northwestern R.S.F.S.R.; 15th session of
the Leningrad University, geographical section. Vest. LGU 14 no.12:
135-137 '57. (MIRA 12:7)

(Russian, Northwestern--Geography)

SAVINOV, Yu.A.

Geomorphological regions in the western part of Vologda Province.
Uch.zap.LGU no.298:107-123 '61. (MIRA 15:2)
(Vologda Province—Geomorphology)

SAVINOV, Yu.A.

Geomorphological features of the Beloz'er'ye as revealed by the
Antushevo Collective Farm in Belozersk District, Vologda Province.
Uch.zap.IGU no.298:124-136 '61. (MIRA 15:2)
(Belozersk District--Geomorphology)

GVOZDEV, V.S., kand.tekhn.nauk; SAVINOV, Yu.P., gidrolog

Calculating flow at low-capacity hydroelectric power stations
in dams. [Nauch.trudy] VESKH 3:358-378 '58.

(MIRA 13:4)

(Hydroelectric power stations)

KRAVCHENKO, V., arkhitektor; SAVINOVA, A., inzh.

"Carrousel" milking parlor on a collective farm. Sil'. bud.
12 no.1:4-6 Ja '62. (MIRA 16:12)

SOV / 124-58-5-5605

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 5, p 99 (USSR)

AUTHORS: Lapina, N. N., Savinova, A. I.

TITLE: The Study of the Permeability Coefficient of Sand at Subfreezing Temperatures (Izucheniye koeffitsiyenta fil'tratsii peska pri otritsatel'noy temperature)

PERIODICAL: Byul. nauchno-tekhn. inform. M-vo geol. i okhrany nedr SSSR, 1957, Nr 3 (8), pp 28-29

ABSTRACT: Bibliographic entry

1. Sand--Physical properties
2. Sand--Temperature factors

Card 1/1

SAVINOVA, A.M.

Sirups made with corn molasses. kons. i ov.prom. 17 no.4:22-23
Ap '62. (MIRA 15:3)

1. Severo-Osetinskiy sovnarkhoz.
(Corn sirup)

SAVINOVA, A.M.

Technological characteristics of "Uspekhs" cucumbers. Kons.
i ov. prom. 17 no.8:34-35 Ag '62. (MIRA 17:1)

1. Krasnodarskiy nauchno-issledovatel'skiy institut pishchevoy
promyshlennosti.

SAVINOVA, A.M.

Better organization of weight accounting for received and
expanded sulfured fruit. Kons.i ov.prom. 17 no.9:28 S '62.
(MIRA 15:8)

1. Sovet narodnogo khozyaystva Severo-Osetinskoy ASSR.
(Canning industry—Accounting)

S/062/63/000/001/006/025
B101/3186

AUTHORS: Avramenko, L. I., Kolesnikova, R. V., and Savinova, G. I.

TITLE: Rate constants and mechanism of the reaction of oxygen atoms with ethylene, propylene, and isobutylene

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 1, 1963, 36-45

TEXT: A continuous vacuum apparatus was used for studying the reaction of C_2H_4 , C_3H_6 and $i-C_4H_8$ with atomic oxygen produced by high voltage discharge in pure O_2 . The reaction products were condensed with liquid nitrogen and analyzed. Inflammation of the reaction mixture proceeding as chain reaction was prevented by covering the walls of the reaction vessel with KCl so that the quantity of the products formed corresponded to that of the O consumed. Based on the equations derived previously (Izv. AN SSSR, Otd. khim. n. 1962, 983), the constant of the reaction rate was determined from the total aldehydes formed. The constant of the oxygen consumption was determined by measuring the concentration of oxygen atoms, which

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S/062/63/000/001/006/025
B101/3186

Rate constants and mechanism ...

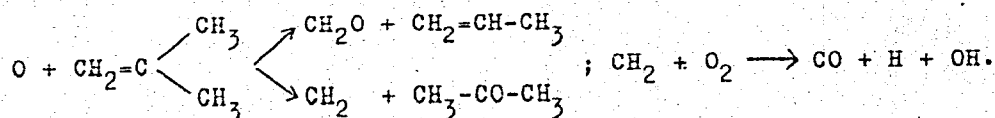
decreases along the reaction vessel. Results: (A) In the reaction with C_2H_4 , the formaldehyde component of the aldehydes formed is 80% at $50^\circ C$ and more than 90% at $200^\circ C$. Moreover, acetaldehyde forms. CO and CH_2O form in equal quantities. The content of free O atoms decreases linearly along the reaction vessel. $k_{C_2H_4} = 1 \cdot 10^{-13} \exp(-1350/RT) \text{ cm}^3 \cdot \text{sec}^{-1} \cdot \text{mole}^{-1}$ and the activation energy is $1350 \pm 500 \text{ cal/mole}$. (B) In the reaction with C_3H_6 , the CH_2O component of the carbonyl compounds formed is 70% at $100^\circ C$, and 80-85% at $200^\circ C$. The second aldehyde forming is acetaldehyde. In addition acetone is formed (in a quantity $\sim 15\%$ that of the acetaldehyde). CO forms in a larger quantity than acetaldehyde. Consequently not only the CH_2 radical is oxidized to CO as in case A, but also the $CH_3CH=$ radical is partially oxidized to CO. $k_{C_3H_6} = 2.85 \cdot 10^{-12} \exp(-3000/RT) \text{ cm}^3 \cdot \text{sec}^{-1} \cdot \text{molecules}^{-1}$ and the activation energy is $3000 \pm 500 \text{ cal/mole}$. (C) In the reaction with $i-C_4H_8$, 60-70%

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Rate constants and mechanism ...

S/062/63/000/001/006/025
B101/B186

of the carbonyl compounds is formaldehyde, the remainder acetone. Additionally, propylene forms in the same quantity as formaldehyde, and CO in the same quantity as acetone. Hence, the following reaction scheme is derived:



The radical $=\text{C}(\text{CH}_3)_2$ is regrouped completely to propylene.

$k_{i-\text{C}_4\text{H}_8} = 4 \cdot 10^{-12} \exp(-2550/\text{RT}) \text{cm}^3 \cdot \text{sec}^{-1} \cdot \text{molecules}^{-1}$ and the activation

energy is 2550 cal/mole. It was confirmed that in the reaction of atomic oxygen with unsaturated hydrocarbons mainly the C=C double bond is split and that carbonyl compounds, predominantly formaldehyde, form. There are 6 figures and 4 tables. The most important English-language references are: H. W. Ford, N. Endow, J. Chem. Phys., 27, 1277 (1957); F. Kaufman, J. Chem. Phys., 28, 352 (1958); L. Elias, H. J. Schiff, Canad. J. Chem., 38, 1657 (1960).
Card 3/4

Rate constants and mechanism ...

S/C62/63/000/001/006/025
B101/B166

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR
(Institute of Chemical Physics of the Academy of Sciences
USSR)

SUBMITTED: April 10, 1962

Card 4/4

L 12734-63

EPF(c)/EWP(j)/EWT(m)/BDS Pr-4/Pc-4 RM/WW

ACCESSION NR: AP3002281

S/0062/63/000/006/0976/0980

64
63

AUTHOR: Avramenko, L. I.; Kolesnikova, R. V.; Savinova, G. I.

TITLE: The rate constant and the mechanism of reaction of oxygen atoms with n-butane

SOURCE: AN SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 6, 1963, 976-980

TOPIC TAGS: reaction of n-butane with oxygen, formation of formaldehyde and acetaldehyde

ABSTRACT: A study has been made on the measurement of the reaction rate constant of oxygen atoms with n-butane between temperature intervals of 40 to 195C for the determination of the magnitude of activation energy and the exponential multiplier of the speed of the reaction $O + n-C_4H_{10}$. The activation energy of the reaction rate constant was found to be 4100 cal/mole and the exponential multiplier value was found to be 1.3×10^{-11} . Only a general conclusion can be made concerning the reaction mechanism between the oxygen atoms and n-butane. Assuming that the main products of the reaction are formaldehyde and acetaldehyde, it is possible to conclude that the reaction of oxygen with n-butane results in the rupture of the c-c bond. Orig. art. has: 3 figures, 3 tables, and 2 formulas.
Association: Inst. of Chemical Physics, Academy of Sciences SSSR

Card 1/2

L 40778-65 EWG(j)/EWT(m)/EPF(c)/EPR/EWP(j)/EWP(t)/EWP(b) Pc-4/Pr-4/Ps-4
ACCESSION NR: AP5006411 IJP(c)/RPL JD/RM S/0062/65/000/001/0028/0035

AUTHOR: Avramenko, L. I.; Kolesnikova, R. V.; Savinova, G. I.

TITLE: Constants of the speeds of reaction of atomic oxygen with cyclohexane and benzene

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1965, 28-35

TOPIC TAGS: cyclohexane, benzene, cyclic hydrocarbon, oxygen, oxygen compound, aromatic compound

ABSTRACT: Constants of the speeds of reaction of atomic oxygen with cyclohexane and with benzene were measured and the mechanism of these reactions were examined especially to clarify the behavior of the atomic oxygen with the aromatic and the saturated ring. The energies of activation of the atomic oxygen reactions with cyclohexane and benzene were found to be 4500 and 4700 cal/M respectively. One of the main directions of these reactions is splitting of the ring and formation of radicals (aldehydes). Orig. art. has: 4 figures, 4 tables, 7 equations.

Card 1/2

L 40778-65

ACCESSION NR: AP5006411

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of
Chemical Physics, Academy of Sciences, SSSR)

SUBMITTED: 11Mar63

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 008

OTHER: 003

BGS
Card 2/2

L 38559-65 EPA/EPA(s)-2/EWT(m)/EPT(c)/EPR/EWP(j)/EWA(c) Pc-L/Pr-L/Ps-L/Pt-10
 ACCESSION NR: AP5009657 WW/JW/RM UR/0062/65/000/003/0408/0412

AUTHOR: Avramenko, L. I.; Kolesnikova, R. V.; Savinova, G. I.

TITLE: The mechanism and the rate constant of oxygen atoms with acetylene

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1965, 408-412

TOPIC TAGS: acetylene, fuel, propulsion, ram jet, supersonic combustion

ABSTRACT: The rate constant and the mechanism of the reaction $O + C_2H_2$ were studied at 70—260C and 4—20 mm Hg. The following expression was obtained for the rate constant:

$$k = 2.9 \cdot 10^{-13} e^{-3100/RT}, \text{cm}^3, \text{sec}^{-1}, \text{molecule}^{-1}.$$

The atomic oxygen was generated by high-voltage discharge from molecular oxygen, and the reaction products, formaldehyde, glyoxal, carbon monoxide, and hydrogen, were determined by chemical and

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L 38559-65

ACCESSION NR: AP5009657

polarographic analysis. At low pressure (4 mm Hg) formaldehyde was the only aldehyde present, while at 20 mm Hg both formaldehyde and glyoxal were formed. The most important step in the atomic oxygen-acetylene reaction is splitting the $C\equiv C$ bond. Orig. art. has: 12 formulas and 3 figures. [PV]

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR
(Institute of Chemical Physics, Academy of Sciences, SSSR)

SUBMITTED: 02Apr63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 007

OTHER: 002

ATD PRESS: 3225

Card 2/2

ISAKOV, I.S., prof., admiral flota v otstavke, otv.red.; PETROVSKIY, V.A., dotsent, kand.voyenno-morskikh nauk, kontr-admiral, zamestitel' otv.red-ra [deceased]; DEMIN, L.A., dotsent, kand.geograf.nauk, inzh.-kapitan 1 rango, glavnyy red.; BERG, S.L., inzh.-mayor, red.; PAVLOVA, O.T., red.; PANIN, I.S., red.; KRONIDOVA, V.A., red.; MARAGINA, A. S., red.; SHIROKOVA, V.S., red.; BOGOLYUBOVA, Ye.D., inzh.-kartograf; BRAILOVSKAYA, Ye.D., inzh.-kartograf; ZININA, Ye.M., inzh.-kartograf; ORLOVA, N.S., inzh.-kartograf; SAVINOVA, G.N., inzh.-kartograf; ALEKSEYEVA, A.V., tekhnik-kartograf; BALAKSHINA, M.M., tekhnik-kartograf; GRIGOR'YEV, A.P., tekhnik-kartograf; DUROVA, T.P., tekhnik-kartograf; MILETINA, M.S., tekhnik-kartograf; SIMAVONOVA, O.B., tekhnik-kartograf; TROPOVA, Z.V., tekhnik-kartograf; SHUMAN, E.E., tekhnik-kartograf; FURAYEVA, Ye.M., tekhn.red.; SVIDERSKAYA, G.V., tekhn.red.; CHERNOGOROVA, L.P., tekhn.red.; SHREYDER, L.Z., tekhn.red.

[Marine atlas] Morskoi atlas. Otv. red. I.S. Isakov. Glav. red. L.A. Demin. Izd. Morskogo general'nogo shtaba. [---Index of geographical names] ---Ukazatel' geograficheskikh nazvaniy. 1952. 543 p. (MIRA 12:1)

1. Russia (1923- U.S.S.R.) Voenno-morskoye ministerstvo.
(Ocean--Maps) (Harbors--Maps)

BERG, S.L., polkovnik; VOROB'YEV, V.I., kapitan pervogo ranga; GIL'EO, G.M., kapitan pervogo ranga; ANANCHENKO, A.A.; BALAKSHINA, M.M.; BANNIKOV, B.S., kapitan vtorogo ranga; BAKHTINA, G.F.; BERENSHTAM, N.V.; BUTYRINA, N.Ya.; VOROB'YEV, V.I., kapitan pervogo ranga; GASS, I.P.; GINBYSH, N.S.; GLADIN, D.F., polkovnik; GOLOVANOVA, L.G., kand. ist. nauk; GOLUBEVA, Z.D., kand. filol. nauk; GONCHAROVA, A.I.; ZANADVOHOVA, R.N.; IVANOVA, N.G.; KARAMZIN, G.B.; KOVAL'CHUK, A.S.; KRONIDOVA, V.A.; LITOVA, Ye.I.; MOLCHANOVA, T.I.; OKUN', L.S.; POCHEBUT, A.N.; RAYTSES, V.I.; SAVINOVA, G.N.; SENICHKINA, T.I.; SKRYNNIKOV, R.G., kand. ist. nauk; FURAYEVA, I.I.; CHIZHOVA, N.N.; YASINSKAYA, L.F.; GLADIN, D.F., polkovnik; LABETSKIY, Ye.F., podpolkovnik; LEBEDEV, S.M., kapitan pervogo ranga; ORDYNSKIY, N.I., kapitan pervogo ranga; NADVODSKIY, V.Ye., podpolkovnik; DEMIN, L.A., inzh.-kontr-admiral, glav. red.; FRUMKIN, N.S., polkovnik, zam. otv. red.; LEVCHENKO, G.I., admiral, red.; BAKHTINA, G.F., tekhn. red.

[Naval atlas] Morskoi atlas. n.p. Izd. Glavnogo Shtaba Voenno-Morskogo Flota. Vol.3. [Naval history] Voenno-istoricheskii. Pt.1. [Text for the maps] Opisaniia k kartam. 1959. xxii, 1942 p. (MIRA 15:5)

1. Russia (1923- U.S.S.R.) Ministerstvo oborony.
(Naval history)

SAVINOVA, L.N., ~~ekonom~~

An income of twenty-five millions rubles from fiber crops. Nauka }
pered. op. v sel'khoz. 7 no.2:52-54 D '57. (MLRA 10:3)
(Tashkent Province--Fibers)

SAVINOVA, L.T. (Leningrad)

Minimum estimates for the eigenvalues of positive operators. Zhur.
vych.mat.i mat.fiz. 1 no.4:714-719 J1-Ag '61. (MIRA 14:8)
(Eigenvalues) (Operators (Mathematics))

S/517/62/066/000/005/006
B172/B112

AUTHOR: Savinova, L. T.
TITLE: Calculation of several types of definite integrals of oscillating functions
SOURCE: Akademiya nauk. SSSR. Matematicheskiy institut. Trudy. v. 66. Moscow, 1962. Raboty po avtomaticheskomu programmirovaniyu, chislennym metodam i funktsional'nomu analizu. 166-181

TEXT: An approximate formula for integrals $\int_a^b f(x)dx$, wherein $f(x)$ oscillates about zero, has been derived by M. Longman (Mathematics of Computation, v. 14, no. 69, January 1960, 53-59) on the assumption that the absolute amounts of the integrals

$$I_i = \int_{x_{i-1}}^{x_i} f(x)dx, \text{ whose limits } x_{i-1} \text{ and } x_i \text{ are successive zeros of } f(x),$$

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Calculation of several types ...

S/517/62/066/000/005/006
B:72/5112

vary monotonically and slowly as i increases. For this formula to be applicable it is necessary only that the values of the I_i 's at the ends of the integration interval should be known. It is shown that the assumption stated above is not necessary. For this purpose, integrands of the form $P_n(x)\sin mx$ and $P_n(x)\cos mx$ are considered, where $P_n(x)$ is a polynomial of n -th degree. If the differences between the I_i 's near the limits of integration are smooth enough, Longman's formula will give usable values even for such integrands. The last part deals with the application of the present formula to integrals resulting from a Ritz formulation to solve a differential equation of second order. There are 3 figures and 2 tables.

Card 2/2

KOLYADITSKAYA, L.S.; SAVINOVA, M.F.

Simple and practicable method for handling laboratory utensils.
Lab. delo no.9:574 '64. (MIRA 17:12)

1. Institut epidemiologii i mikrobiologii im. N.F. Gamalei, Moskva.

SAVINOVA, H.; KUDRJAVCEV, I.

"Fatigue Resistance of Welds Increased by Surface Hardening." p. 127
(SVARACSEY SBORNIK. Vol. 2, No. 1/2, 1953; Bratislava, Czech.)

So: Monthly List of East European Accessions, (EAL), LC, Vol. 4, No. 4, April 1955, Uncl..

SAVINGVA, N.I.

"A Method of Cultivating Tomato Seedlings in Peat Food Cubes." Cand Agr
Sci, Moscow Agricultural Acad imeni K. A. Timiryazev, Moscow, 1953. (RZh Biol,
No 8, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR
Higher Educational Institutions (12)
SC: Sum. No. 556, 24 Jun 55

EDEL'SHTEYN, V.I., professor, doktor sel'skokhozyaystvennykh nauk;
SAVINOVA, N.I., kandidat sel'skokhozyaystvennykh nauk.

Raising seedlings in peat-humus pots and in enriched cubes.
Est.v shkole no.2:17-22 Mr-Apr '54. (MLRA 7:3)

1. Moskovskaya sel'skokhozyaystvennaya akademiya im. K.A.Timiryazeva (for Savinova). (Vegetable gardening)

RUMANIA/Cultivated Plants. Potatoes. Vegetables. Melons.

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20328.

Author : N. Savinova, D. Belan, S. Aleksa, V. Choake.

Inst : Agricultural Scientific Research Institute, Rumanian
People's Republic.

Title : On the Problem of Cultivating the Shoots of Vegetable
Crops in Feeding Vessels. (K voprosu vyrashchivaniya
rassady ovoshchnykh kul'tur v pitatel'nykh gorshochkakh).

Orig Pub: Commun. Acad. RPR, 1956, 6, No 9, 1123-1129.

Abstract: In the vegetable raising division of the Agricultural
Scientific Research Institute (RPR) a study was made
of mixtures for the turf-mold vessels and norms of
mineral fertilizing. The advantages of lowland and up-
stream turf above other materials has been established.
The amount of mineral fertilizers depends on the crop.

Card : 1/2

RUMANIA/Cultivated Plants - Fruits. Berries.

M

Abs Jour : Ref Zhur Biol., No 12, 1958, 53829

Author : Negreanu Elena, Savinova, Nina

Inst : -
Title : Growing the Grape Vine from Seeds in the Feed Pots.

Orig Pub : Gradina, via si livada, 1957, 6, No 1, 55-57

Abstract : A 100% germinating ability of the seeds was achieved at the experimental station of viticulture in Valya Keluge-ryaske (RNR, 1956) in growing grape vine from hybrid seeds in feed pots. The feed pots contained the following: 3 parts of peat, 1 part of sawdust, 1 part of virgin soil and $\frac{1}{2}$ part of cow manure diluted with water 1:1. 0.5 g N_{25} , 4 g P_2 and 0.5 g of potash are added to each 1 kg of the mixture. 12-14 days before sowing, the seeds were soaked in water at the temperature of 30°. Due to this the seeds sown March 27-30 produced sprouts April 6-11, and on the 75th day the vine was 70 cm in height.

Card 1/2

- 134 -

SAVINOVA, N

RUMANIA/Cultivated Plants - Potatoes, Vegetables, Melons.

M-3

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10819

Author : Davidescu, D., Savinova, N.

Inst : -

Title : Soilless Cultivation of Vegetables.

Orig Pub : Gradina, via si livada, 1957, 6, No 6, 20-24

Abstract : No abstract.

Card 1/1

SAVINOVA, N.; BALAN, D.; BLANARU, V.

Mineral feeding of seedlings grown in nutritive pots.

P. 569 (COMUNICATIE) (Bucuresti, Rumania) Vol. 7. No. 7. July 1957

50: Monthly Index of East European Accessions (MEAI) LC Vol. 7. No. 5. 1958

SAVINOVA, Nina, ing., candidat in stiinta agricole

A new stimulant for plant growth. St si Tsh Buc 15 no.5:
40 My '63.

KISELEV, A.V.; NIKITIN, Yu.S.; SAVINOVA, N.K.; SAVINOV, I.M.; YASHIN, Ya.I.

Use of macroporous silica gels for gas chromatographic analysis
at high temperatures. Zhur. fiz. khim. 38 no.9:2328-2330 S '64.
(MIRA 17:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova,
khimicheskiy fakul'teta.

TOVBIN, M.V.; SAVINOVA, O.V.

Size of elementary active centers during
aerosols. Nauk.sop.Kyiv.un. 16 no.15:4

(Aerosols)

ation of water
57. (MIRA 11:11)

SAVINOVA, S. I.

Calves

How I raised 1650 calves. Dost. sel'khoz. no. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

POZNER, Viktor Mikhaylovich; KIRINA, Tamara Il'ichna; PORFIR'YEV, Gleb
Sergeyevich. Uchastvovali: APRODOVA, A.A.; VISSARIONOVA, A.Ya;
ZAKHAROVA, M.M.; KILIGINA, M.L.; KOVYAZINA, N.M.; LUN'YAK, I.A.;
MUSINA, K.K.; ORLOVA, I.N.; SAVINOVA, S.I.; TAZIOVA, Ye.N.;
TERENT'YEVA, V.D.; FADEYEVA, M.I.; CHERNOVA, Ye.I.; SHUL'NOVA, A.K.
TIKHIY, V.N., red.; DAYEV, G.A., ved. red.; GENNAD'YEVA, I.M., tekhn. red.

[Volga-Ural oil-bearing region; Carboniferous sediments] Volgo-Ural'-
skaya neftenosnaya oblast'. Kamennougol'nye otlozheniya. Leningrad,
Gos. nauchn. tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1957.
287p. (Leningrad. Vsesoiuznyi neftianoi nauchno-issledovatel'-
skii geologorazvedochnyi institut. Trudy no. 112) (MIRA 11:12)
(Volga Valley--Geology, Stratigraphic)
(Ural Mountain region--Geology, Stratigraphic)

SAVINOVA, V.F.

Diagnosis of cancer of the cervix uteri by colpomicroscopy.
Vop. onk. 6 no.4:53-58 Ap '60. (MIRA 14:3)
(UTERUS—CANCER) (ENDOSCOPY)

SAVINOVA, V.F.

Comparative data on cytological and colposcopic examinations in the diagnosis of cancer of the cervix uteri. Sov. med. 24 no.4:76-81. (MIRA 13:8)
Ap '60.

1. Iz ginekologicheskogo otdeleniya (zav. - prof. L.A. Novikova) i klinicheskoy laboratorii (zav. N.N. Shiller-Volkova) Gosudarstvennogo onkologicheskogo instituta im. P.A. Gertsena (dir. - prof. A.N. Novikov, nauchnyy rukovoditel' - deystvitel'nyy chlen AMN SSSR prof. A.I. Savitskiy) Ministerstva zdravookhraneniya RSFSR.
(UTERUS---CANCER)

SAVINOVA, V. F.

Cand Med Sci - (diss) "Cytological, colposcopic, and colpomicroscopic study as diagnostic methods for cancer of the neck of the uterus." Moscow, 1961. 13 pp; (Academy of Medical Sciences USSR); 280 copies; price not given; (KL, 5-61 sup, 206)

SAVINOVA, V.F.

Carcinoma in situ of the cervix uteri. Vest. AMN SSSR 18
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Clinical aspects and diagnosis of intraepithelial and initial infiltrating cancer of the cervix uteri. Akush. i gin. 40 no.4:33-38 J1-Ag '64.

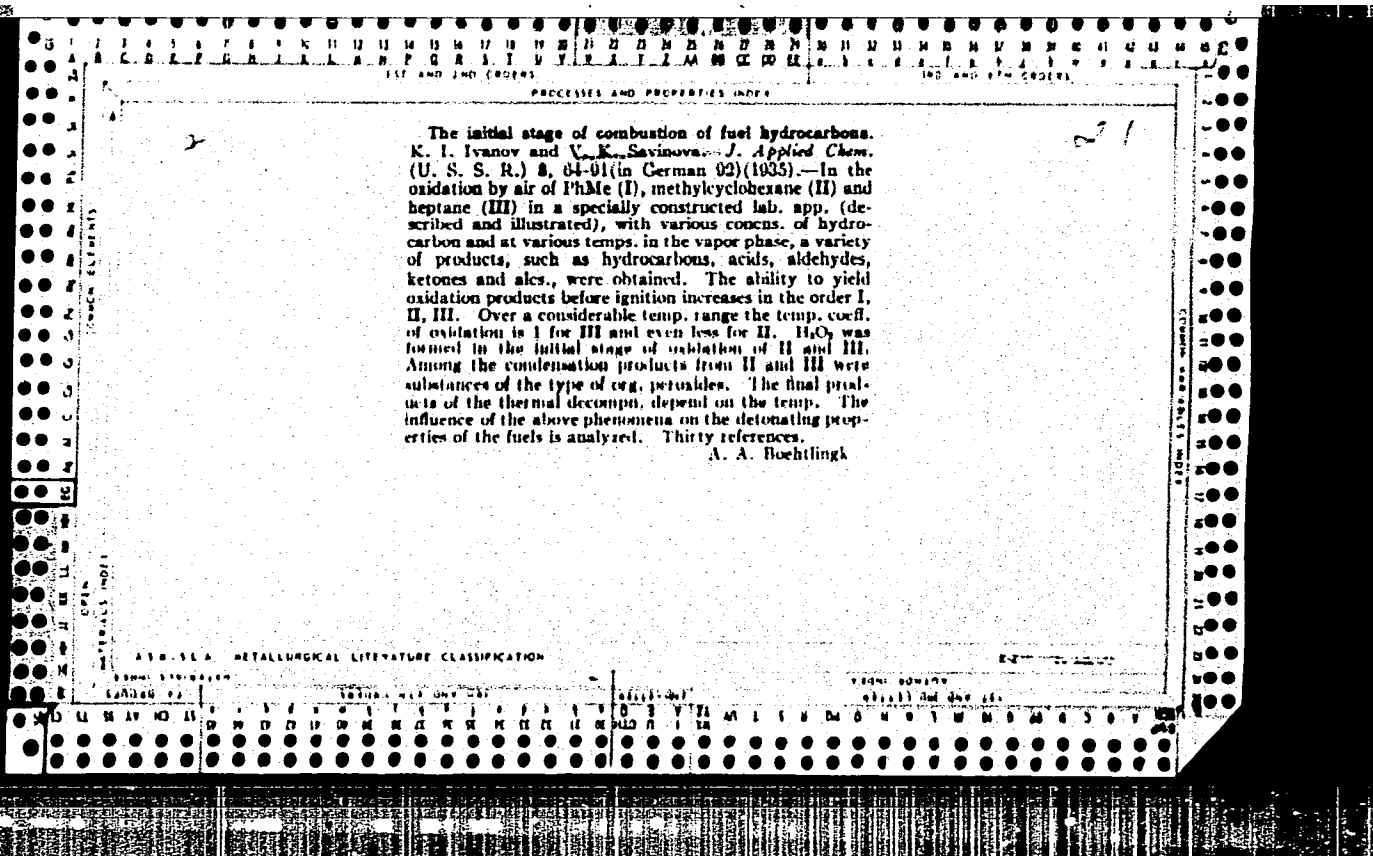
(MIRA 18:4)

1. Ginekologicheskoye (zav. - doktor med. nauk I.S.Krayevskaya) i patologoanatomicheskoye otdeleniye (zav. - kand. med. nauk Z.V. Gol'bert) Onkologicheskogo instituta imeni Gertsena (dir. - prof. A.N. Novikov), Moskva.

YELINSON, Zh.L.; SAVINOVA V.F.

X-ray methods for the study and diagnosis of cancer of the uterus and its adnexa. Akush. i gin. 40 no.4:77-82 J1-Ag '64. (MIRA 18:4)

1. Rentgeno-radiologicheskii otdel (zav. - prof. I.L.Tager) i ginekologicheskoye otdeleniye (zav. - chlen-korrespondent AMN SSSR prof. L.A. Novikova) Instituta eksperimental'noy i klinicheskoy onkologii (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N.Blokhin) AMN SSSR, Moskva.



Hydroxymethyl peroxides. I. Tetrahydronaphthyl hydroxymethyl peroxide. K. I. Ivanov, V. K. Savinova and E. G. Mikhailova. *J. Gen. Chem.* (U. S. S. R.) 8, 51-4 (in English 55)(1938); cf. *C. A.* 29, 6725⁷.—A mixt. of 2.8 g. of cryst. tetrahydronaphthalene peroxide, m. 55°, (cf. Hock and Suemihl, *C. A.* 27, 1827) and 77.7 g. (10% excess) of 0.72% HCHO in C₆H₆ (obtained by estg. com. HCHO with C₆H₆ and drying with calcined Na₂SO₄) was allowed to stand in the dark at room temp. for 120 hrs. After the distn. of the C₆H₆ without heating *in vacuo*, the residue in a quartz flask was treated at a max. temp. of 30° and 3 mm. for 3 hrs. with a current of dry N through the capillary tube. The faintly yellow liquid, d. > 1, becomes cryst. on cooling with solid CO₂. Recrystd. from petr. ether it m. 40.5°. When tested by the previous method (*C. A.* 30, 6344⁴), it proved to be *tetrahydronaphthyl hydroxymethyl peroxide* (C₁₀H₁₀OOCH₂OH); yield, nearly 100%. It is easily decompd. by distn. at 3 mm.; does not detonate by a blow and burns quietly with a smoky flame. With dil. NaOH in the cold it liberates atm. H₂. It is sol. in org. solvents, poorly sol. in petr. ether and insol. in H₂O. Chas. Blanc

BC

Mechanism underlying autooxidation and retardation of autooxidation of hydrocarbons. I. Influence of accelerators and inhibitors of autooxidation on the decomposition of organic peroxides. II. Influence of accelerators and inhibitors of autooxidation on the formation of organic peroxides. K. I. IVANOV, V. K. SAVINOVA, and E. G. MICHAILOVA (Compt. rend. Acad. Sci. U.R.S.S., 1939, 25, 34—39, 40—42).—I. The kinetics of the decomp. of tetrahydronaphthyl H-peroxide (I) and tetrahydronaphthyl OH-CH₂ peroxide (II) in solution in decalin and tetralin containing 4 mol.-% of (I) and (II) at 75—150° have been investigated. The rate of decomp. of (II) is > that of (I) at the same temp., and the rate varies with the solvent. Substances known to be negative catalysts of the autooxidation in the liquid phase [*o*- and *m*-C₆H₄(OH)₂, C₆H₅-OH, *p*-OH-C₆H₄-NHPh, α -C₁₀H₇-NH₂, NHPh-C₁₀H₇- β] produce no definite effect on the rate of decomp. Positive catalysts of autooxidation accelerate the decomp. of (I) but have no effect on

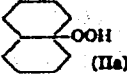
that of (II). PbEt₂ strongly accelerates the decomp. of (I), but inhibits that of (II). The results do not agree with those of Yamada (A., 1937, I, 316; II, 56).

II. Substances which inhibit the autooxidation of liquid hydrocarbons inhibit very strongly the formation of (I). Naphthenates of Fe and Mn, which catalyze the autooxidation of the hydrocarbons, also catalyze the formation of (I). PbEt₂ inhibits the formation of (I) but octyl nitrite accelerates it.

A. J. M.

ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION

Decahydronaphthalene peroxide. K. I. Ivanov and V. K. Savinova, *Compt. rend. acad. sci. U.R.S.S.* 40, 31-4 (1945); *Doklady Akad. Nauk S.S.S.R.* 40, 32-3 (1945).—Decahydronaphthalene (decalin) (I) was subjected to the action of O under the simultaneous action of ultraviolet rays to yield decalin peroxide (II). After repeated fractionation, con. I was treated with 3-4 vols. of concd. H₂SO₄ and a 10% silica gel, 5% aq. NaOH, and water, dried over CaCl₂, and distd. over Na to give a mixt. of *cis*- and *trans*-I, *b_p* 184-7°, *n_D²⁰* 1.4708, *d₄²⁰* 0.873. I (200 g.) was oxidized by bubbling O through it at the rate of 5 cc. per min. under ultraviolet radiation of a Hg-vapor lamp for 200 hrs. at 70°. After distg. off the excess I under 1-2 mm., there remained a transparent, pale yellow liquid which on cooling pptd. white crystals of II. II was recrystd. from petr. ether to give 1-1.5% of long prismatic needles of the monoclinic system. Refractive indices of II, measured by the immersion method, were: *n_D* 1.570, *n_F* ~ *n_D* = 1.550; angle of optical axes 2*V* = 12°; angle of extinction 20°. Pure II m. 96.5°, *b₁* 103°, *d₄* 1.15 (solid). Analysis for active O gives results corresponding to those calcd. for the formula C₁₀H₁₆OOH. II liberates iodine from HI solns., colors titanic acid solns., and, after treatment with CH₂O in benzene and evapn. of the benzene, decolorizes an alk. soln. of methylene blue. II (4 g.) in 30 cc. glacial HOAc was dissd. to stable turbidity with H₂O and 15 g. KI was added. After 3 days the liberated iodine was removed with N Na₂S₂O₄, and the soln. was neutralized with Na₂CO₃ and distd. with steam. Crystals of decalin (III) sepd. from the distillate and, after drying over H₂SO₄ and recrystg. from petr. ether, m. 54° (yield 3.0 g.); sublimation raised the m.p. to 54.7°. II (0.47 g.) in 8 cc. glacial HOAc and 8 cc. H₂O was refluxed with 0.5 g. of Zn dust for 1 hr. and then distd. with steam to give a cryst. product (m. 54.7°) similar in properties to the reaction product of II with HI. III (1 g.), prepd. by reducing II with HI in petr. ether, was shaken for 4 hrs. with 1 g. of CrO₃ in 3 cc. of H₂O to give, after working up the soln., needlelike orange crystals of the chromic ester (IV) of *trans*-III, m. 86.5°. Treatment of IV with Zn gave again crystals of III. From the reactions given above and from theoretical observations it is concluded that the peroxide II has the structure IIa and is *trans* in configuration.


(IIa)

Bernard Wolaski

11 AND 120 000000

PROCESSES AND PROPERTIES INDEX

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Peroxides of isopropyl ether. 1. autooxidation of isopropyl ether. Nature of the peroxides. K. I. Ivanov, V. K. Savinova, and E. G. Mikhailova. *J. Gen. Chem. (U.S.S.R.)* 18, 63-70(1948)(English summary). -Ultra-violet irradiation hastens autoxidation of iso-Pr₂O; 3 types of peroxides are formed; H₂O₂, a small amt. of low-boiling org. peroxide (b_p below 30°) and, principally, a higher-boiling org. peroxide. The oxidation was run at 50°, using a stream of O.

G. M. Kosolapoff

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

6-277

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117 AND 120 ORDERS										PROCESSING AND PROPERTIES INDEX										120 AND 121 ORDERS									
<p>Peroxide compounds of diisopropyl ether. II. Heavy peroxide. K. I. Ivanov, V. K. Savinova, and R. G. Mikhailova. <i>J. Gen. Chem. (U.S.S.R.)</i> 16, 1003-14 (1948) (in Russian); cf. <i>C.A.</i> 40, 7153¹.—The main product of the initial autoxidation of (iso-Pr)₂O (I), described in part I, is shown to be a diatomic hydroperoxide, d_4^{25} 1.080, n_D^{25} 1.4398. Its structure is thus represented by</p> $\begin{array}{c} \text{Me}_2\text{COOH} \\ \\ \text{O} \\ \\ \text{Me}_2\text{COOH} \end{array}$ <p>Thermal decompos. of the material in decalin at 100-30° was followed and the results are given graphically; the decompos. products were found to be: CO₂ 3.8, C₂H₆ 0.2, CO 0.2, H₂ 0.1, satd. hydrocarbons (based on C₁₀H₈) 2.5, Me₂CO 5.4, org. acids 5.3 (as HCO₂H), alks. 3.5 (as iso-PrOH), and tars 18.8%. The peroxide yields Me₂CO and H₂O₂ in contact with H₂O. The usual autoxidation inhibitors (phenols, aminophenols) inhibit the formation of the peroxide in the ether completely when used in 0.1% concs. III. Light peroxide. <i>Ibid.</i> 1015-19.—A small amt. of "light peroxide" found in the oxidation of I by O at 50° in ultraviolet radiation was further studied. The material, b_p 18-20°, is not isolated in all expts. and is found only in extremely small amts. in successful runs. It is apparently a <i>monohydroperoxide</i> (II) of the structure $\text{Me}_2\text{CHOCMe}_2\text{OOH}$; a sufficient amt. of the material was isolated from a very large run to establish its phys. consts., d_4^{25} 0.947, n_D^{25} 1.4388. It is shown that the action of ultraviolet radiation merely accelerates the autoxidation of I and does not change the course of the reactions. II appears to be the intermediate in the formation of the bihydroperoxide. G. M. K.</p>																													
<p>ASB-15A METALLURGICAL LITERATURE CLASSIFICATION</p>																													
<p>12000 12001 12002 12003 12004 12005 12006 12007 12008 12009 12010 12011 12012 12013 12014 12015 12016 12017 12018 12019 12020 12021 12022 12023 12024 12025 12026 12027 12028 12029 12030 12031 12032 12033 12034 12035 12036 12037 12038 12039 12040 12041 12042 12043 12044 12045 12046 12047 12048 12049 12050 12051 12052 12053 12054 12055 12056 12057 12058 12059 12060 12061 12062 12063 12064 12065 12066 12067 12068 12069 12070 12071 12072 12073 12074 12075 12076 12077 12078 12079 12080 12081 12082 12083 12084 12085 12086 12087 12088 12089 12090 12091 12092 12093 12094 12095 12096 12097 12098 12099 12100 12101 12102 12103 12104 12105 12106 12107 12108 12109 12110 12111 12112 12113 12114 12115 12116 12117 12118 12119 12120 12121 12122 12123 12124 12125 12126 12127 12128 12129 12130 12131 12132 12133 12134 12135 12136 12137 12138 12139 12140 12141 12142 12143 12144 12145 12146 12147 12148 12149 12150 12151 12152 12153 12154 12155 12156 12157 12158 12159 12160 12161 12162 12163 12164 12165 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SAVINOVA, V. K.

PA 43/43T7

USSR/Chemistry - Octane, 2-, 7-Dimethyl Feb 1948
Chemistry - Peroxides

"Peroxidation Compounds of 2,7-Dimethyl Octane," K.
I. Ivanov, V. K. Savinova, V. P. Zhakhovskaya, All-
Union Fuel Engin Inst imeni F. E. Dzerzhinskiy, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 4

Describes experiments showing that use of ultra-
violet light on saturated hydrocarbons with open
circuit of atoms makes them oxidize in comparative-
ly mild temperature conditions. Submitted by Acad-
emician S. S. Nametkin, 23 Oct 1947.

43T7

C/A *10*

Methylcyclohexane peroxide, K. I. Ivanov and V. K. Sotnikova, *Doklady Akad. Nauk S.S.S.R.* 59, 363 (1959); *Ch. C.A.* 60, 4708. —Methylcyclohexane was oxidized in liquid phase under the action of ultraviolet light, which greatly accelerates the reaction. The oxidation has an induction period which can be shortened by org. peroxides, or ultraviolet light. Irradiation, however, also tends to decomp. the peroxide and leads to high-boiling oxidation products. Methylcyclohexane (150-80 g.) and 10-15% already oxidized hydrocarbon, or 0.3-0.5% methylcyclohexane peroxide, in a quartz long-necked flask were treated with an O stream (8 ml./min) with Hg-lamp irradiation at 80° 200-250 hrs.; distn. *in vacuo* gave the peroxide, $C_{12}H_{22}O_4$, as a viscous liquid, b.p. 53°, d_4^{20} 0.9011, n_D^{20} 1.4042, sol. in org. solvents, insol. in water. It is quite stable, is not completely reduced by aq. Na_2SO_3 , and reacts slowly with NaOH solns., giving a Na salt. It appears to be a hydroperoxide with $-OOH$ structure, probably at the tertiary C atom. Reduction by boiling with Zn-aq. AcOH gave 1-methylcyclohexanol, m. 24°.

G. M. Kosolapoff

CA 10

PEROXIDE OF *sec*-BUTYLPHENONE. K. I. Ivanov, V. K. Savinova, and V. V. Zakharenko. *Chem. Abstr.* 1966, 57, 10588 (1966). C₁₁H₁₄O₂ (10 mols.) and 1 mol. BuLi treated with 0.6 mol. AlCl₃ gradually over 44 hrs. at 2.5-3.5° and then kept 4 hrs. at 22°, gave 70% *sec*-BuPh, b_m 172.5-3.5°, d₄²⁰ 0.8613, n_D²⁰ 1.4805. This (200 g.) treated with O (5 cc./min.) at 85° with ultraviolet illumination 350 hrs. gave on evapn. of most of the hydrocarbon *in vacuo* and treatment of the cooled residue with 7.3 g. cold 35% NaOH, the Na salt of the peroxide, which after isolation was treated with excess cold 10% H₂SO₄ in water and extd. with benzene; distn. of the ext. gave the pure peroxide, b_m 48-9°, d₄²⁰ 1.0431, n_D²⁰ 1.5208. The compd. is a hydroperoxide, ROOH; it is not stable on long storage and forms resinous substances at room temp. Heating with 25% FeSO₄ soln. readily gives AcPh, isolated as the semicarbazone, m. 105.5°. The peroxide gives the above-mentioned Na salt, which forms hygroscopic white crystals.

FROM RUSSIAN

411131 CHEM DNY 151

411131 CHEM DNY 151

CA

Peroxiside compounds of 2,7-dimethyloctane. b. I.
Ivanov, ~~Savitskaya~~, and G. M. Koshlakov,
Doklady Akad. Nauk S.S.S.R. 50, 703-704 (1948). 2,7-
Dimethyl-octane, bp. 150.5-60.5°, d₄²⁰ 0.7211, n_D²⁰ 1.4091,
was prepd. by the Wurtz fraction from iso-amyl in 50%
yield. This (180 g.) was bubbled with O₂ (5 ml/min)
180-200 hrs. with ultraviolet irradiation at either 70.5
or 85.5°. After cooling to -20° the viscous diperoxide
layer was sept., the main soln. concd. by evapn.,
the residue in 2.5 l. benzene repeatedly washed with 5%
NaHCO₃, then with 50% MeOH (which removes the rest
of the diperoxide), and the residual soln. distill. finally
in vacuo, to give the pure monoperoxide, Me₂CH(CH₂)₄-
C(OOH)Me₂, bp. 49.5°, d₄²⁰ 0.8953, n_D²⁰ 1.4360, gives
qual. tests for active H, burns quickly on ignition, and is
quite stable in closed vessels in the dark. It is not com-
pletely reduced by sulfite solns. and does not react quan-
titatively with aq. alkali; it is sol. in the usual org. sol-
vents. Boiling with 20% FeSO₄ soln. 1 hrs. gave Me₂CO,
which confirmed the structure. The aq. MeOH ext.
(above) was concd. in vacuo and the residue, dilid. with
benzene and dried, was blown with dry N at 1 mm. and
below 50° to remove the solvent; the residue was sub-
stantially pure diperoxide, Me₂CH(CH₂)₄C(OOH)OC-
(OOH)Me₂, colorless, very viscous liquid, undistillable
in a high vacuum, d₄²⁰ 1.010, n_D²⁰ 1.4581. On boiling 0.5
hrs. with 25% FeSO₄ soln. it gave Me₂CO and 2-methyl-
croic acid (characterized as the amide, m. 102°).
The diperoxide is much less stable than the mono ether and
decomp. with vigor at 75-80°. G. M. Koslovskii.

A 5 M 3 L A METALLURGICAL LITERATURE CLASSIFICATION

1999: 1999-01-01

1104 1105

011123 ONE ONE TWO

CA

10

Direction of the peroxidation of the straight alkane chain. The peroxide formed in the autoxidation of normal heptane. K. I. Ivanov, V. K. Savinova, and V. P. Zhakhovskaya. *Doklady Akad. Nauk S.S.S.R.* 72, 903 (1950).—The nature of the intermediate peroxide formed in the autoxidation of $C_{11}H_{24}$ in the liquid phase was ascertained by its extn. with aq. alkali. In liquid phase the autoxidation is surprisingly slow, in contrast to the relatively easy oxidation of $C_{11}H_{24}$ in the gas phase (as compared with cycloheptane and PhMe); oxidation catalysts such as org. Mn salts or CrO_3 , or ultraviolet light, have hardly any accelerating effect. The concn. of the peroxide reaches 0.5–0.6% in 150 hrs. and does not increase any further up to 400 hrs. On boiling the aq. alk. extn., the peroxide goes over mainly (70%) into 2-heptanone, with about 30% going over into 2-heptanol. This establishes the peroxide as $AmCH(O_2H)Me$ (I), i.e., contrary to previous assumptions, the O_2 mol. attacks not the 1st, but the 2nd C atom of the $C_{11}H_{24}$ chain. The const. of I are: b_{max} 38°, d_4^{20} 0.9072, n_D^{20} 1.4305, δ (specific dispersion) = $[(n_D - n_C)/d] \cdot 10^3 = 81.6$. The compd. gives the iodine and thiocyanate reactions for active O and the hydroperoxide group reaction with $(AcO)_2Pb$. It is stable in storage and burns with a sooty flame. Its decompn. product, I — $AmCOMe$ was identified by the semicarbazone, m. 121°.

N. Thon

SAVINOVA, V. K.

USSR/Chemistry - Peroxides

May 52

"The Peroxide of Butylbenzene." K. I. Ivanov, V. K. Savinova, V. P. Zhakhovskaya, All-Union Heat Engineering Inst im F. Dzerzhinskiy

Zhur Obshch Khim, Vol 22, No 5, pp 781-784

In photo-oxidation of n-butylbenzene with oxygen at 80°, a hydroperoxide with an -OOH at the carbon atom of the side-chain group is formed. The peroxide was isolated and its properties were detd.

263728

SAVINOVA, V.K.

Chemical Abst.
Vol. 48 No. 5
Mar. 10, 1954
Organic Chemistry

~~L-Phenylbutylhydroperoxide. K. I. Ivanov, V. K.
Savinkova, and V. P. Zhakhovskaya. J. Gen. Chem.
U.S.S.R. 22, 843-5(1952)(Engl. translation).—See C.A.
47, 3205b. H. L. H.~~

MF
7-28-54

SAVINOVA, V. K.

✓ Reaction of hydroperoxides formed in autoxidation of hydrocarbons with antioxidants. K. I. Ivanov and V. K. Savinova. *Voprosy Khim. Kinetiki, Kataliza i Mekhanizma Reaktsii*, Akad. Nauk S.S.S.R., Otdel. Khim. Nauk 1955, 250-9.—It was established that $(C_6H_5)_2S$ (I) reacts vigorously with hydroperoxides of hydrocarbons, yielding apparently the sulfoxide and the HO deriv., resp. $(C_6H_5)_2S$ is less reactive in this respect than is the sulfide, $PhCHMeSH$ attacks hydroperoxides at least as actively as does I, while $PhSH$ and $1-C_{10}H_{17}SH$ are decidedly less reactive; 2-decylthiophene is inert. The active S derivs. listed above are, however, ineffective antioxidants in respect to petroleum-like substances. Furthermore, *p*-hydroxydiphenylamine, a very effective antioxidant, does not attack hydroperoxides. Hence the 2 types of activity are not necessarily related (cf. Denison and Condit, *C.A.* 40, 701¹).
G. M. Kosolapoff

2

0005

PM

L 13338-63

EPR/EPF(c)/EWT(m)/BDS Ps-4/Pr-4 RM/WW

ACCESSION NR: AP3002775

S/0204/63/003/003/0352/0359

AUTHOR: Ivanov, K. I.; Savinova, V. K.; Zhakhovskaya, V. P.

65

TITLE: Thermal stability of alkyl hydroperoxides

64

SOURCE: Neftekhimiya, v. 3, no. 3, 1963, 352-359

TOPIC TAGS: isomeric alkyl hydroperoxide, alkyl hydroperoxide decomposition

ABSTRACT: The investigated isomeric alkyl hydroperoxides can be grouped according to their increasing stability against thermal decomposition. Under the investigated conditions their stability in solutions is as follows: secondary, primary, and tertiary alkyl hydrocarbons. In an inert media of chlorobenzene solution under a nitrogen atmosphere and at 110C, the direction of thermal decomposition is different for alkyl hydroperoxides of different structures. The primary alkyl hydroperoxides under these conditions decomposes primarily into hydrogen and acid with the same number of atoms. The hydrogen skeleton of the secondary pentanehydroperoxide-2 partly breaks down with the formation of methane and butyric acid. The tertiary hydroperoxide decomposes by a complex radical chain reaction. The composition of the gaseous phase and

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L 13338-63

ACCESSION NR: AP3002775

the nature of the solvent show a large effect on the direction and to some extent, on the rate of the alkyl hydroperoxide decomposition. The gaseous oxygen is vigorously absorbed by the solvents of the decomposing isomeric alkyl hydroperoxides and even takes part in their decomposition in an inert solvent such as chlorobenzene. In the treatment of autooxidation mechanism of petroleum and of paraffinic hydrocarbons especially, one must consider not only the effect of the decomposition in the liquid but also in the gaseous media. In addition to this the possibility of direct formation of acids during the decomposition of alkyl hydroperoxides must also be considered. Orig. art. has: 2 tables.

ASSOCIATION: Vsesoyuznyy teploekhnicheskii nauchno-issledovatel'skiy institut im. F. E. Dzerzhinskogo (All-Union Scientific Research Institute of Heat Engineering)

SUBMITTED: 03Dec62

DATE ACQ: 23Jul63

ENCL: 00

SUE CODE: 00

NO REF SOV: 004

OTHER: 010

Card 2/2

PRYANISHNIKOV, Boris Yefimovich; SAVINOVA, Ye.I., red.; TSYURKO, M.I.,
tekhn. red.

[Orenburg method of sheepshearing] Orenburgskii metod strizhki
ovets. Orenburg, Orenburgskoe knizhnoe izd-vo, 1960. 38 p.
(MIRA 14:10)

(Sheepshearing)

MALYGIN, Viktor Makarovich; KLIPINITSER, M.S., red.; SAVINOVA, Ye.I.,
red.; DEMENKOVA, L.I., tekhn. red.

[Heroic work on virgin lands; chronicles of the bringing of the
virgin lands of Orenburg Province under cultivation] Podvig na
tseline; letopis' osvoeniia tselinnykh zemel' Orenburgskoi ob-
lasti. Orenburg, Orenburgskoe knizhnoe izd-vo, 1961. 271 p.

(MIRA 15:1)

(Orenburg Province--Agriculture)

7-58-3-7/15

AUTHORS: Nesterenko, G. V., Studenikova, Z. V., Savinova, Ye. N.

TITLE: Rare and Trace Elements in Skarns of Tyrny-Auz (Redkiye i rasseyannyye elementy v skarnakh Tyrny-Auza)

PERIODICAL: Geokhimiya, 1958, Nr 3, pp. 228 - 234 (USSR)

ABSTRACT: In this paper the distribution and the behaviour of the following elements are investigated during the formation process of the skarn deposits: tin, germanium, gallium, cobalt, nickel, chromium, vanadium, titanium, zirconium, strontium, barium, and beryllium. The main elements of this deposit, tungsten and molybdenum, are not described. The analysis was carried out in the spectral laboratory of the Institute of Geochemistry and Analytical Chemistry. In this paper the skarn formation is discussed first; then the behaviour of single elements is discussed. The results of the analysis are given in tables inserted in the text. The authors draw the following final conclusions from their paper: 1) Germanium and tin are introduced by means of solutions in the course of the skarn

Card 1/2

Rare and Trace Elements in Skarns of Tyrny-Auz

7-58-3-7/15

formation. 2) Gallium, cobalt, nickel, chromium, vanadium, titanium, zirconium, strontium, barium, and beryllium come into the skarns from the biotite hornfels; in the course of the skarn formation of the latter the mentioned elements migrate to a different extent, i.e., chromium, vanadium, titanium, zirconium, strontium, and barium to the greatest extent, nickel to a smaller extent, gallium, cobalt, and beryllium to a hardly determinable extent. 3) The rare and disperse elements do not form own minerals and enter into the crystal lattice of silicates as isomorphous admixtures; only titanium and zirconium occur partly as sphene and zirconium. There are 10 tables and 7 references, 3 of which are Soviet.

ASSOCIATION:

Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo, AN SSSR, Moskva (Moscow, Institute of Geochemistry and Analytical Chemistry ineni V.I. Vernadskiy, AS USSR)

SUBMITTED:

March 5, 1958

1. Rare earth elements--USSR
2. Rare earth elements--Properties
3. Geochemistry

Card 2/2

SOV/ 7-58-4-5/13

AUTHORS: Borovik-Romanova, T. F., Sosedko, A. F. (Deceased),
Savinova, Ye. N.

TITLE: On the Ratio Between the Potassium- and Rubidium Content in
Minerals From Pegmatitic Veins of the Kola Peninsula Accord-
ing to the Data of Spectral Analysis (Ob otnoshenii soder-
zhaniy kaliya k rubidiyu v mineralakh iz pegmatitovykh zhil
Kol'skogo poluoostrova po dannym spektral'nogo analiza)

PERIODICAL: Geokhimiya, 1958, Nr 4, pp. 334 - 341 (USSR)

ABSTRACT: A total of 53 samples was investigated by means of the spec-
trograph ISP -51; the lines 7800,23; 7947,60 Å were used
for the determination of rubidium, the lines 7664,91; 7698,98 Å
and 6911,30; 6938,98 Å for the determination of potassium.
Accuracy in the case of rubidium amounts to $\pm 8\%$, in that of
potassium to $\pm 9,4\%$, $\pm 7,4\%$ respectively. The results are
given in a table. The following fields were investigated:
A) Pegmatite field in the southern part of the Kola pen-
insula.
I) Northwestern part of the field (microclines)

Card 1/4

On the Ratio Between the Potassium- and Rubidium Content in Minerals From
Pegmatitic Veins of the Kola Peninsula According to the Data of Spectral
Analysis

SOV/7-58-4-5/13

- "Zhila na bolote", (microclines)
- II) Central part of the pegmatite field (microclines)
- III) Southern- and southeastern part of the field pegmatite
Southern veins (microclines)
Vein in the southeastern part of the field (microclines)
- B) Pegmatitic field, 30 km southeast of the investigated
field (microclines)
- C) Microclines from other regions of the Kola peninsula
- D) Pegmatite fields of the Ural and the Vostochnoye Zabay-
kal'e (amazonites), mica of the Kola peninsula (lepi-
dolite, muscovite).

Results obtained by the investigation of the microclines:

- 1) The potassium content amounts to between 7,84 % and 13,74%,
the rubidium content is between 0,1 % and 1,5 %.
- 2) The K/Rb-ratio is between 106 (north and northwest) and
7,0 (southeastern field). If the results are plotted on
a diagram with % Rb as the abscissa and K/Rb as the or-
dinate, four groups can be distinguished. The latter are

Card 2/4

On the Ratio Between the Potassium- and Rubidium Content in Minerals From
Pegmatitic Veins of the Kola Peninsula According to the Data of Spectral
Analysis

SOV7-58-4-5/13

discussed.

- 3) In the zonary pegmatitic veins of the south- and south-eastern part the K/Rb-ratio is reduced from the contact to the center from 26 to 15.

In the investigation of the K/Rb-ratio in mica it was found that rubidium increases like in the case of microclines, as compared to potassium, from the northwest to the southeast of the field and in the zonary veins from the contact to the center. There are 4 figures, 1 table, and 11 references, 4 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii, im. V. I. Vernadskogo AN SSSR i Kol'skiy filial AN SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy AS USSR and Kola Branch AS USSR)

SUBMITTED: April 10, 1958
Card 3/4

SOV7-58-4-5/13

On the Ratio Between the Potassium- and Rubidium Content in Minerals From
Pegmatitic Veins of the Kola Peninsula According to the Data of Spectral
Analysis

1. Minerals--Analysis
2. Potassium--Determination
3. Rubidium--Determination
4. Spectrographic analysis--Applications

Card 4/4

AUTHORS: Getling, R.V., Savinova, Ye. No. SOV/7-58-4-9/15

TITLE: Some Data on the Boron Content of Igneous Rocks in the Tur'-
inskoye Ore Field, Ural Mountains (Nekotoryye dannyye o
soderzhanii bora v izverzhennykh porodakh Tur'inskogo
rudnogo polya na Urale)

PERIODICAL: Geokhimiya, 1958, Nr 4, pp. 574 - 579 (USSR)

ABSTRACT: 26 samples of various rocks were investigated in order to
determine their boron content (quartz spectrograph ISP-22):
Intrusive rocks and preskarnian vein rocks (circa 0,003%)
Effusive rocks (circa 0,006%)
Postskarnian vein rocks (lamprophyres) (circa 0,002%)
In these rocks no boron minerals occur. The boron is
contained mainly in plagioclase, as is shown by the investiga-
tion of the monomineral fractions (results in Table 2). This
disproves the statement of Sahama (Ref 14) that boron is
concentrated mainly in dark minerals. The authors plotted
a great number of boron analyses on a diagram, in order to
find a dependence of the boron content on the composition
of the rock. It was found that the increased boron contents
are due to a magma even richer in boron. The rocks of

Card 1/2

Some Data on the Boron Content of Igneous Rocks in the 30V/7-58-4-9/15
Tur'inskoye Ore Field, Ural Mountains

Tur'inskoye on the average show a threefold mean boron content. To this corresponds also the occurrence of datolite-mineralization in the Vadimo-Aleksandrovskoye deposit in the Tur'inskoye ore field. There are 1 figure, 2 tables, and 13 references, 7 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (Moscow Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy AS USSR)

SUBMITTED: March 28, 1958

1. Rock--Analysis 2. Boron--Determination

Card 2/2

3(B), 3(G)

SOV/7-59-1-5/14

AUTHORS: Getling, R. V., Savinova, Ye. N.

TITLE: On the Boron Distribution in Rocks and Skarn Minerals of the Vadimo-Aleksandrovskoye Datolite Deposit (Tur'inskoye Ore Field, Northern Ural) (O raspredelenii bora v porodakh i skarnovykh mineralakh Vadimo-Aleksandrovskogo datolitovogo mestorozhdeniya (Tur'inskoye rudnoye pole, Severnyy Ural),

PERIODICAL: Geokhimiya, 1959, Nr 1, pp 38-45 (USSR)

ABSTRACT: The deposit belongs to the Eastern part of the Tar'ya geosyncline and consists of effusive- and metamorphous sedimentary rocks of the middle Devon. Variscan intrusions of gabbro, gabbro-diorites, and quartz diorites as well as veins of diorite-porphyrates and lamprophyres pierce through the Devon rocks. Various types of skarns are spread throughout the deposit. Their boron content was determined by means of a spectrum analysis (Ref 2). The boron content of igneous rocks which was investigated in a previous study is 0.002 - 0.003% (Ref 2). The following averages were found: sedimentary-metamorphous complex 0.004% (Table 1), rocks contiguous to the skarn 0.008% (Table 2). Garnet skarns almost entirely free from boron (Table 3), garnet-wollastonite and wollastonite

Card 1/3

SOV/7-59-1-5/14
On the Boron Distribution in Rocks and Skarn Minerals of the Vadino-Aleksandrovskeye Datolite Deposit (Turinskoye Ore Field, Northern Ural)

skarns: wollastonite with 0.009% (Table 4), garnets with 0.04% (Table 5), epidote-skarns 0.002% boron. Summarizingly there is to be said: boron is concentrated in hornfels, in garnet from garnet-wollastonite skarns, in epidote, in the rocks contiguous to the skarn, and in igneous rocks. The boron content of hornfels is possible due to the sponges which concentrated boron obtained from the sea-water. In the processes resulting from contact with the contiguous rocks boron is not removed from the igneous rocks. The boron content of wollastonites is caused by mechanical datolite admixtures as was shown by the x-ray analysis carried out by K. V. Fedotova. Garnets from garnet skarns are usually free from boron while boron was supplied during the transformation into epidote. The absence of boron minerals from the skarns shows that boron acted as a completely mobile component and had a low chemical potential. Datolite was formed by the reaction with silicate material in limestone. Boron-free garnets in skarn deposits do not constitute a criterion for the presence of datolite; an increased boron content, however, is highly indicative of

Card 2/3

SOV/7-59-1-5/14

On the Boron Distribution in Rocks and Skarn Minerals of the Vadimo-Aleksandrovskeye Datolite Deposit (~~the Vadimo~~ Ore Field, Northern Ural)

a datolite mineralization. The authors thank V. V. Shcherbina and V. L. Parsukov for their valuable advice and suggestions. A. A. Yaroshevskiy determined the light refraction and specific weight of garnets. There are 6 tables, and 14 references, 3 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo
AN SSSR, Moskva
(Institute of Geochemistry and Analytical Chemistry imeni
V. I. Vernadskiy AS USSR, Moscow)

SUBMITTED: August 27, 1958

Card 3/3

3(5), 5(2)
AUTHORS:

Volkov, V. P., Savinova, Ye. N.

SOV/7-59-6-6/17

TITLE:

On the Rubidium Distribution and the K/Rb-Ratio in the Rocks of the Lovozerskiy Alkali Massif

PERIODICAL:

Geokhimiya, 1959, Nr 6, pp 524 - 529 (USSR)

ABSTRACT:

The rocks of the four intrusion phases were investigated by spectrum analysis. The spectrograph ISP-51 and plates of the infrachromium-840 type were used. The amounts of g/t increase from 140 in the first phase to 230 g/t Rb in the third phase as may be seen from the results (Table 2). The youngest rocks of the massif contain, however, little rubidium, the poecilitic nepheline syenites and tavites 145 g/t, the monchiquites of the fourth phase 80 g/t Rb. The average amount of the second intrusion phase was found to be 205 g/t on the basis of a discussion with A. I. Polyakov and Yu. A. Balashova on the parts by volume of the individual rocks. Calculated for the entire massif the average is 210 g/t. The K-values of the published analyses were used for the purpose of calculating the K/Rb-ratio (Refs 1,2, and 7). The values for the first, second, and third phase thus determined are 280, 200, and 170 (Table 3). For the entire massif the K/Rb-ratio amounts to 195. Potassium

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On the Rubidium Distribution and the K/Rb-Ratio
in the Rocks of the Lovozerskiy Alkali Massif

SOV/7-59-6-6/17

was volumetrically determined in monchiquites, according to a method of Yu. P. Trusov and O. F. Mironova, Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy AS USSR). Papers by A. M. Demin, D. N. Khitarov, V. I. Gerasimovskiy, V. I. Lebedev, M. D. Dorfman, and N. A. Yeliseyev are mentioned. There are 3 tables and 11 references, 8 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the AS USSR)

SUBMITTED: April 8, 1959

Card 2/2

VOLKOV, V.P.; SAVINOVA, Ye.N.

Relationship between potassium and rubidium in the evolution
process of lime-alkaline and alkaline igneous ~~magma~~s. *Geokhimiia*
no.12:1099-1107 '61. (MIRA 15:3)

1. Vernadskiy Institute of Geochemistry and Analytical Chemistry,
Academy of Sciences U.S.S.R., Moscow.
(Lovozero Tundras--Potassium) (Lovozero Tundras--Rubidium)

28282
S/075/61/016/005/001/010
B101/B110

5.5310

AUTHORS:

Vaynshteyn, E. Ye., Korolev, V. V., and Savinova, Ye. N.

TITLE:

Conditions for the spectrum excitation of elements in a plasma generator, and its use for spectrum analysis

PERIODICAL: Zhurnal analiticheskoy khimii, v. 16, no. 5, 1961, 532 - 537

TEXT: The inhomogeneous distribution of alloying additions and of impurities in titanium alloys rules out their analysis in spark or arc spectra. The authors therefore suggest the plasma generator as a new excitation source for the spectrum analysis of solutions. The present paper reports on systematic studies on the influence of different conditions upon the blackening of lines of various elements, as well as on the method of analyzing titanium alloys. Results: (1) The excitation energy of spectrum lines affects the shape and position of blackening maxima. If the energy is reduced, the maxima become broader and their distance from the origin of the jet increases. (2) Anions do not affect the blackening degree. (3) The difference, ΔS , between the blackening degrees of the two iron lines Fe II 2598.4 and Fe I 2719.02 decreases linearly along

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Conditions for the spectrum excitation ...

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the jet. Addition of 50% alcohol does not alter this ratio but decreases the temperature, broadens the maxima, and shifts them toward the origin of the jet. The analytical method devised can be used to determine Al, Cr, Mo, Fe, Si, V, Mn, and Sn in Ti alloys. In the present paper, however, only the determination of Al, Cr, Mo, V, and Mn is described. The standard solutions were obtained by mixing the calculated quantities of solutions of the chlorides of the elements to be determined with the TiCl_4 solution. Cobalt salt (10 mg/ml of Co) was used as the reference element. 5 ml of its solution was added to 50 ml of the test solution. 0.5 g of the alloy to be analyzed was dissolved in 20 ml pure HCl. TiCl_3 was oxidized by dropwise addition of concentrated HNO_3 , and 5 ml of Co salt solution was added. The spectrum analysis was carried out with a plasma generator described by V. V. Korolev, E. Ye. Vaynshteyn in Zh. analit. khimii, 15, 686 (1960), whose nozzle had a diameter of 6.5 mm. About 6.5 liter/min of cooling gas (argon) was spent, the gas pressure at the input of the atomizer was 2.5 at, the consumption of solution was 6 - 8 milliliter/min, and the electrode spacing was 3 mm. The plasma generator was operated with 20 a and 270-v d-c. A distance of 22 mm from the origin

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Conditions for the spectrum excitation ...

of the jet was found to be an optimum for the spectroscopic record. The lines of all elements could be taken with the same slit adjustment of an ИСП-22 (ISP-22) spectrograph. The spectra were taken on type-II spectroscopic plates with a sensitivity of 16 ГОСТ (GOST) units, and developed in a Д-19 (D-19) developer. The preexposure was 20 sec and that of the principal exposure 75 sec. The spectrograms of standards and alloys were photometrically determined with an МФ-2 (MF-2) microphotometer. The calibration curves $\Delta S = f(\log c)$ (c = concentration) were linear. The mean arithmetic error was 3-4 %. K. A. Sukhenko is thanked for providing the alloys. There are 8 figures, 2 tables, and 9 references: 3 Soviet and 6 non-Soviet. The most recent reference to the English-language publication reads as follows: Margoshes, M., Scribner, B. F., Spectrochimica Acta, 2, 138 (1959).

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, AS USSR, Moscow)

SUBMITTED: November 30, 1960

Card 3/3

BOROVIK-ROMANOVA, T.F.; BELYAYEV, Yu.I.; KUTSENKO, Yu.I.; PAVLENKO, L.I.; SAVINOVA, Ye.N.; FARAFONOV, M.M.; VAYNSHTEYN, E.Ye., prof., doktor khim. nauk, otv. red.; DRAGUNOV, E.S., red. izd-va; ASTAF'YEVA, G.A., tekhn. red.

[Spectral determination of rare and dispersed elements in minerals rocks, soils, plants, and natural waters] Spektral'noe opredelenie redkikh i rasseiannykh elementov; v mineralakh i porodakh, pochvakh, rasteniiakh i prirodnym vodakh. [By] T.F. Borovik-Romanova i dr. Moskva, Izd-vo Akad. nauk SSSR, 1962. 239 p. (MIRA 15:3)

1. Akademiya nauk SSSR. Institut geokhimii. (Spectrum analysis)

S/058/62/000/012/023/048
A160/A101

AUTHORS: Vaynshteyn, E. Ye., Korolev, V. V., Savinova, Ye. N.

TITLE: The use of a plasma generator for the spectral analysis of titanium-base alloys

PERIODICAL: Referativnyy zhurnal, Fizika, no. 12, 1962, 31, abstract.12G311
("Chem. analit." (Polska), no. 1, 1962, 7, 187 - 194; summary in Polish)

TEXT: The expediency is shown of using a plasma generator as a spectrum-excitation source during a quantitative analysis of alloying admixtures (Al, Cr, Mo, V, Mn, Fe, Si, Sn, etc.) in titanium alloys. A method was developed for determining the first five of these elements whose contents in the various alloys vary within 0.1 - 10%. Presented are parts of the design, outside view, and the parameters of the plasma generator which are best for carrying out the analysis. The alloys, subject to the analysis, were preliminarily converted to solution, or the standard solutions were converted to aerosol by an atomizer and introduced, together with the cooling gas, in the interior cavity of the generator,

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The use of a plasma generator for...

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and later on - in the jet of the plasma. The mean arithmetic error of the reproducibility of the spectral determination is 3 - 4%. A satisfactory conformity of the results of the chemical and spectral analyses of standard alloys was obtained.

F. Ortenberg

[Abstracter's note: Complete translation]

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VAINSHTEIN, J.E.; KOROLEV, V.V.; SAVINOVA, E.N.

Application of the plasma generator in spectral analysis of titanium alloys. *Chemia anal* 7 no.1:187-194 '62.

1. The V.I. Vernadskiy Institute of Geochemistry and Analytical Chemistry, Academy of Sciences of the U.S.S.R., Moscow.

SAVINOVA, YE V.

AUTHORS: Tovbin, M.V. and Savinova, Ye.V.

73-2-2/22

TITLE: The spontaneous adsorption process. 2: The dependence of the surface tension on the radius of surface curvature. (K Voprosu o protsesse samoadsorbtsii. 2: Zavisimost' poverkhnostnogo natyazheniya ot radiusa krivizny poverkhnosti).

PERIODICAL: "Ukrainskiy Khimicheskii Zhurnal" (Ukrainian Journal of Chemistry), Vol.23, No.2, March-April, 1957, pp.146-151, (USSR).

ABSTRACT: The author aimed to define the magnitude of the spontaneous adsorption of water by more contemporary methods than Van der Waals employed. The principles of the applied method are the same as used by M.V.Tovbin and E.V.Savinova (Ref.3: Tovbin, M.V. and Savinova, E.V. Zhurnal Fiz.Khimii. (in print)), based on the evaporation of water which is flowing out of thin tubes. Data obtained during the investigation of the non-stationary (kinetic) evaporation showed that the water-air boundary layer contains a self-adsorption layer with gradually decreasing density. When 1 cm² of self-adsorption layer is formed, 3.3×10^{-9} mole water disappears at 25 C. The thickness of the self-adsorbing layer was found to be about 1.2×10^{-7} cm. The calculated results were in good agreement with previously

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The spontaneous adsorption process. 2: The dependence of the surface tension on the radius of surface curvature. (Cont.)

obtained results by different methods. The surface tension was shown to depend on the radius of the surface curvature as indicated in Table 3. The dependence of the surface tension of water on the radius of surface curvature was calculated.

$$r = \frac{2V[\sigma_0 + a(P_0 - P)]}{RT \ln \frac{P_0}{P}}$$

r = radius of surface curvature;

V = molecular volume of the liquid;

σ_0 = value of surface tension for flat surfaces;

a = constant;

P_0 and P = the corresponding values of pressure of the

Carl 2/3 saturated vapour;

R = gas constant; T = absolute temperature.

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The spontaneous adsorption process. 2: The dependence of the surface tension on the radius of surface curvature. (Cont.)

There are 3 diagrams, 1 table and 10 references, 6 of which are Slavic.

ASSOCIATION: Kiev State University, Chair of Physical and Colloidal Chemistry (Kievskiy Gosudarstvennyy Universitet, Kafedra Fizicheskoy i Kolloidnoy Khimii).

SUBMITTED: September 17, 1956.

AVAILABLE: Library of Congress
Card 3/3

76-11-10/35

AUTHOR: Tovbin, M.V., Savinova, Ye.V.

TITLE: The Kinetics of the Non-Steady Processes on the Interface Between Gas and a Liquid (Kinetika nestatsionarnykh protsessov na granitse razdela zhidkost' - gaz) I. The Kinetics of the Non-Steady Process of Water Evaporation (I. Kinetika nestatsionarnogo protsessa ispareniya vody)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 11, pp 2445-2452 (USSR)

ABSTRACT: A method for measuring the velocity of water evaporation of the surface of a moving jet was worked out. This method makes it possible to investigate the kinetics of a non-steady process in the case of the very short contact between water and gas. The regularities in the kinetics of a non-steady process of water evaporation were investigated. It is shown that with an increase of the duration of the contact of these phases evaporation velocity at first increases, after which it attains a maximum, and, finally, begins to decrease by gradually approaching the constant value which is characteristic of a process under steady conditions. The dependence of the velocity of gas of a non-steady process of water evaporation on temperature was investigated, and it is shown that, with a decrease of the

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76-11-10/35

The Kinetics of the Non-Steady Processes on the Interface Between Gas and a Liquid. I. The Kinetics of the Non-Steady Process of Water Evaporation.

duration of phase contact, the temperature coefficient of evaporation rises, the apparent process-activation energy becomes greater and attains a value which is near that of the bound heat-amount in water evaporation. With respect to the process of evaporation it is presumed that upon the newly formed surface of the liquid a self-adsorbing transition layer is first formed. The further course taken by this process consists in the desorption of the substance from the self-adsorbing layer. On the strength of experimental data it is shown that, for the forming of a self-adsorbing layer at 25°C - $3.3 \cdot 10^{-9}$ g-mol/cm² water is necessary. There are 11 figures, 1 table, and 4 Slavic references.

ASSOCIATION: Kiyev State University imeni T.G.Shevchenko (Kiyevskiy gosudarstvennyy universitet im. T.G.Shevchenko)

SUBMITTED: June 30, 1956

AVAILABLE: Library of Congress

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SAVINOVA, Ye. V.

76-12-17/27

AUTHORS:

Tovbin, M.V., Savinova, Ye.V.

TITLE:

Kinetics of Non-Steady Processes at the Liquid-Gas-Interface
(Kinetika nestatsionarnykh protsessov na granitse razdela zhidkost'-
gaz) II. The Influence of the Adsorption Layers on the Velocity of the
Non-Steady Process of Evaporation of Water (II. Vliyaniye
adsorbtsionnykh sloyev na skorost' nestatsionarnogo protsessa
ispareniya vody).

PERIODICAL:

Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 12, pp.2717-2719 (USSR)

ABSTRACT:

Reference is made to the determination in a series of investigations
that the adsorption-layers are able to reduce the velocity of vapor-
ization of the volatile components of mixture. Since it is assumed
that the adsorption-layers exercise a particularly great influence on
the velocity of vaporization under non-steady conditions where the
role of diffusion in the kinetics of the process is reduced to a min-
imum - the present elaborate investigation was carried out for re-
examining this assumption. It is shown that under non-steady condi-
tions the adsorption layers influence in various ways the velocity
of water-vaporization in dependence on the amount of phase-contact-
duration. In the case of a very small period of phase contact
 $\tau < 0.002$ sec., the velocity of vaporization in the presence of an

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Kinetics of Non-Steady Processes at the Liquid-Gas-Interface.
II. The Influence of the Adsorption Layers on the Velocity of
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adsorption film is essentially greater than the velocity of vaporization of pure water. Prolongating the duration of phase contact, the film begins to decelerate the vaporization of the water in which case the retardation of the process caused by the film begins to reduce gradually with the approximation to steady conditions (viz. with the rise of T). An explanation is given here for the somewhat unexpected character of the influence of the adsorption-layers on the kinetics of the non-steady process of water-vaporization. In the previous paper [Ref.13] the assumption was expressed that an intense reduction of the velocity of water-vaporization, which is observed at $T < 0.003$ sec., is correlated with the formation of a self-adsorbing interphase-layer. With such insignificant phase-contact periods, the molecules of the vaporizing water are used for filling the interphase-layer, and do not reach the gas-flow flowing around the liquid. In the case of the presence of surface active substances the amount of water required for filling the interphase layer reduces intensely (at the expense of the displacement of the water by the surface active substance). Therefore, the formation of the interphase-layer does almost not at all influence the observed velocity

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Kinetics of Non-Steady Processes at the Liquid-Gas-Interface.
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of water vaporization. This is apparently also the cause for the intense reduction of the observed velocity of vaporization caused at $\tau < 0.003$ sec. by the adsorption-films. The following must still be taken into account for explaining the influence of the adsorption-layer: the presence of surface active substances leads to the reduction of the surface-tension at the interface of solution-water which, under non-steady conditions, can lead to an increase of the velocity of water vaporization. Besides, it must be considered that the formation of the adsorption layer requires a certain time. During the formation of the layer, the decelerating effect of the layer may increase with the prolongation of the duration of phase-contact. There are 2 figures, and 13 references, 8 of which are Slavic.

ASSOCIATION: Kiyev State University (Kiyevskiy gosudarstvennyy universitet).

SUBMITTED: September 20, 1956

AVAILABLE: Library of Congress
 Card 3/3